DØ Online Examine

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DØ Collaboration Meeting
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- What is Examine and its job?
- How many Examines?
- What is needed?
- What do we need to know/decide?
- What is the short term GOAL?

What is EXAMINE?

Examine is the package used to monitor the experiment, during the stores and calibration runs.

Its Jobs are

- Start/Pause/Resume/Abort a calibration run for one or more detector systems. (calib)
- Analyze data - calibration and $p\overline{p}$ - and fill histograms
- Write out/Abort calibration information into the ONLINE Calibration Database
- Display/update/reset/declare desired histograms
- Compare histograms with the standard sets
- Diagnostic tools & Alarm
- Display time series
- Store histograms into a file
- Display Events

How many EXAMINEs do we need?

- Detector Examine : Monitor various detector systems
  - ▷ Calorimeter Systems: CC, EC, CPS, FPS, ICD
  - ▷ Central Tracking Systems : SVX, CFT
  - ▷ Muon Systems : Central, Forward, Veto?
  - ▷ Luminosity & Beam Related : LØ , FPD
  - ▷ Other : Solenoid(?)
- Global Examine : Monitor data quality/Display Events
- Trigger Examine : Monitor the trigger systems
- Captain's Examine : Monitor Beam Conditions

What do we need to know/decide?

- Which histogram package do we use?
  ROOT, Histoscope?
- Where, physically, do we want the analysis and histograming executible to run?
- What hardware archetecture & machine power do we need to achieve appropriate statistics within the given time frame?
  - ▷ How many and what kinds of histograms are needed?
  - ▷ What is the appropriate statistics?
  - ▷ How quickly one needs to accumulate the stat.?
- Which Operating system to do what task?
- Which language for GUI interface?
  JAVA, PYTHON, C++, ROOT+CINT?

What is needed for Examine?

COOR/TAKER for calib run requests

Data distribution system

Data buffer

Database communication package

Messaging system for sending and receiving histograms

Subdetector system analysis packages and reconstruction software

What is the goal?

Short Term Goal : Ready the full system by January, 1999, for ICD testing.

We will provide GUI and appropriate HOOKs/ interfaces for various functionalities.
Tim McMahon will investigate

- Turning his VCR into a prototype of JAVA Examine GUI
- Use of CORBA for underline messaging
  - ▷ Come to an evaluation within 2 weeks
- Use of existing FNAL messaging system
  - ▷ Need the messaging system code delivered to Tim
- Linkage between GUI and ROOT
- Test the GUI ⇒ ROOT connection with a test *rt* file

We will provide example routines, using ICD, for Histogram declaration, filling, updating, and resetting *(Jae will do this)*

Need each systems to provide their own analysis and histograming package!!!